

RESPONSE

Claims 3-9, 11-15, and 18-20 are pending in this application. The Examiner has rejected claims 3-9, 11-15, and 18-20 under 35 U.S.C. §103(a) over U.S. Patent Number 5,952,420 (Senkus) or over WO 01/36505 (Young), each one individually.

Applicant is herein amending claim 3 to clarify that the polymer is formed by emulsion polymerization. Applicants are herein amending claim 15 to clarify that in one embodiment of the invention, the polymer is formed by mini-emulsion polymerization.

Applicant is herein canceling claim 18, without prejudice.

Amendments to the claims do not introduce new matter, because they are supported by language on, *inter alia*, page 12, paragraph 0029; page 14, paragraph 0036; page 15, paragraph 0040; and page 16, paragraph 0042.

Specification

As suggested by the Examiner, Applicant is herein amending the Specification to update the continuity data with regard to issued U.S. Patent No. 6,646,086.

Rejection Under 35 U.S.C. §103(a) Over Senkus

The Examiner rejected claims 3-9, 11-15, and 18-20 under 35 USC 103(a), as being unpatentable over Senkus, because Senkus discloses a seed polymerization process to obtain a polyacrylate polymer. Applicant respectfully traverse because Senkus does not disclose, teach or suggest (1) the addition of a portion of Applicant's monomer mixture to Applicant's reaction mixture to form a polymer seed, or (2) the emulsion polymerization of Applicant's monomer to form a polymer.

Senkus does not disclose, teach or suggest preparation of his polymer by emulsion polymerization. Senkus discloses the preparation of an aqueous dispersion containing, among

other things, methacrylic acid and zinc oxide; heating of the aqueous dispersion to 58°C; addition of an oil phase containing, among other things, vinyl acetate and a 2,2-azobisbutyronitrile thermal initiator; followed by the suspension polymerization of the flask contents. Applicant respectfully submits that Senkus does not disclose, teach or suggest the preparation of his pressure-sensitive adhesive polymer microparticulate by any process other than suspension polymerization. One of ordinary skill in the art knows that suspension polymerization is not the same as emulsion polymerization. Senkus' entire disclosure, including the examples, is directed toward a polymer prepared by suspension polymerization. Thus, Senkus does not motivate one of ordinary skill in the art to produce an emulsion polymer according to the process of Applicant's invention.

Further, Applicant respectfully submits that Senkus does not disclose, teach or suggest use of a polymer seed. As noted in Applicant's specification, a polymer "seed" functions to control the desired particle size of the polymer. Senkus' aqueous dispersion does not contain any initiator, and the 58°C temperature to which it is heated is not sufficient to initiate a polymerization reaction. Thus, the polymerization reaction does not ensue until the oil phase containing the initiator is charged. One of ordinary skill in the art would believe that Senkus, by "charging" his oil phase, is adding it batchwise, in a single shot. Thus, Senkus' does not motivate one of ordinary skill in the art to add a portion of his oil phase to the aqueous dispersion to form a polymer seed, or to subsequently add the remainder of his oil phase on a gradual basis. Further, even, assuming arguendo, that a portion of Senkus' oil phase were to be added to the aqueous dispersion to form a polymer, this polymer would not act as a polymer seed which controls the particle size of the polymer product. Rather, it would exist in the final polymer product as a second polymer mode. One of ordinary skill in the art knows that during suspension polymerization, the polymerization takes place within the oil droplets dispersed in the aqueous

phase, resulting in a polymer particle having a size approximately equal to that of the oil droplet. Any later-added Senkus oil phase monomers would not transport into the already polymerized particle, and thus would not cause the already polymerized particle to grow. Rather, it would polymerize within the newly-added oil droplet, forming a new polymer particle. Thus, Senkus does not disclose, teach or suggest use of a polymer seed.

For the above-mentioned reasons, Applicant respectfully submits that Applicant's invention is patentable over Senkus, and requests that the Examiner withdraw her rejection of the claims.

Rejection Under 35 U.S.C. §103(a) Over Young

The Examiner rejected claims 3-9, 11-15, and 18-20, under 35 USC 103(a), as being unpatentable over Young, because Young discloses a suspension polymerization process in which an aqueous phase containing an acid monomer, a metal oxide, and surfactant is polymerized with an oil phase containing a vinyl monomer. Applicants respectfully traverse because Young does not disclose, teach or suggest (1) the addition of a portion of Applicant's monomer mixture to Applicant's reaction mixture to form a polymer seed, or (2) the emulsion polymerization of Applicant's monomer to form a polymer.

Young does not disclose, teach or suggest preparation of his polymer by emulsion polymerization Young discloses the preparation of ionomeric particulate compositions by suspension polymerization, or bulk polymerization in suspended droplets. Applicant respectfully submits that Young does not disclose, teach or suggest the preparation of his composition by any process other than suspension or bulk polymerization. One of ordinary skill in the art knows that suspension polymerization and bulk polymerization are not the same as emulsion polymerization. Young's entire disclosure, including the examples, is directed toward a polymer prepared by

suspension or bulk polymerization. Thus, Young does not motivate one of ordinary skill in the art to produce an emulsion polymer according to the process of Applicant's invention.

Further, Applicant respectfully submits that Young does not disclose, teach or suggest use of a polymer seed. As noted in Applicant's specification, a polymer "seed" functions to control the desired particle size of the polymer. Neither Young's description of his invention, nor his examples teach or suggest use of a polymer seed. In his examples, Young's aqueous dispersion does not contain any initiator, and the 58°C temperature to which it is heated is not sufficient to initiate a polymerization reaction. Thus, the polymerization reaction does not ensue until the oil phase containing the initiator is charged. Therefore, Young's aqueous dispersion is not a polymer seed. One of ordinary skill in the art would believe that Young, by "charging" his oil phase, is adding it batchwise, in a single shot. Thus, Young does not motivate one of ordinary skill in the art to add a portion of his oil phase to the aqueous dispersion to form a polymer seed, or to subsequently add the remainder of his oil phase on a gradual basis. Further, even, assuming arguendo, that a portion of Young's oil phase were to be added to the aqueous dispersion to form a polymer, this polymer would not act as a polymer seed which controls the particle size of the polymer product. Rather, it would exist in the final polymer product as a second polymer mode. One of ordinary skill in the art knows that during suspension polymerization, the polymerization takes place within the oil droplets dispersed in the aqueous phase, resulting in a polymer particle having a size approximately equal to that of the oil droplet. Any later-added Young oil phase monomers would not transport into the already polymerized particle, and thus would not cause the already polymerized particle to grow. Rather, it would polymerize within the newly-added oil droplet, forming a new polymer particle. Thus, Young does not disclose, teach or suggest use of a polymer seed.

For the above-mentioned reasons, Applicant respectfully submits that Applicant's invention is patentable over Young, and requests that the Examiner withdraw her rejection of the claims.

Conclusion

In view of the foregoing, Applicants respectfully request that the Examiner reconsider and withdraw the art rejection, and allow the claims.

This Amendment and Response is filed by the undersigned registered patent attorney pursuant to 37 C.F.R. 1.34(a). It is requested that all correspondence with respect to this application be directed to the undersigned at the address noted below.

Respectfully submitted,



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FACSIMILE COVER SHEET

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DATE:	April 28, 2004	
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RE: Patent Application No. 10/664,219

Attached, please find a response for the above-mentioned patent application.

Regards,

Chipo M. Jolibois

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PATENT
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Atty Docket No. A01280A

In re application of: Robert Victor Slone

Serial No: 10/664,219 : Group Art Unit: 1713

Filed: 9/17/03 : Examiner: Tatyana Zalukaeva

For: **METHODS AND COMPOSITIONS INVOLVING POLAR MONOMERS
AND MULTIVALENT CATIONS**

Commissioner for Patents
P.O. Box 1450
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CERTIFICATE OF FACSIMILE

Sir:

I hereby certify that the following correspondence is being sent by facsimile to the Assistant Commissioner of Patents, Washington, D.C. 20231 on the date indicated next to my signature below:

Amendment and Response to Office Action Mailed January 28, 2004

April 28, 2004
Date

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